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PATENT ABSTRACTS OF JAPAN

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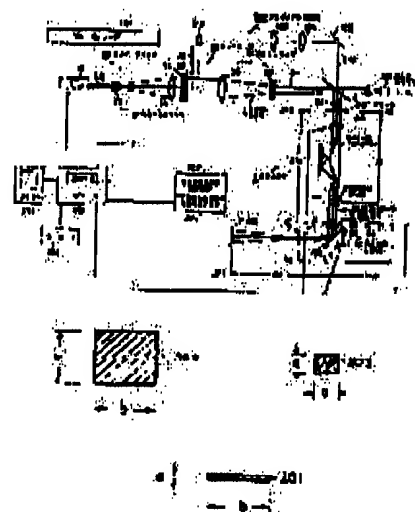
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(54) LASER OPERATION DEVICE FOR OPHTHALMOLOGY

(57)Abstract:

PURPOSE: To obtain a laser operation device for ophthalmology, which can be utilized for plural operation systems, by composing the device of a light source, which emits an infrared laser light to have a specified central wavelength, and an irradiation optical system to irradiate an operated eye with the infrared laser light.

CONSTITUTION: The laser operation device is mostly composed of a light source system 1, an irradiation optical system 2 and an alignment optical system 100 and the light source system 1 has an infrared laser 10 as a laser light source, for example, an HF laser which has the emitting wavelength of $2.9\mu\text{m}$. Since the beam cross section of a pulse laser light LB has the rectangular shape of $(a) \times (b)$ when the device is used by a stable resonator, the laser beam is enlarged and shaped to the laser beam LB, whose cross section has the almost square shape of $(b) \times (b)$, by a cylindrical expander 21. Further, the laser beam diameter is reduced to the cross section of $(c) \times (c)$ by a reverse expander 24. An attenuator 30 is arranged between the cylindrical expander 21 and reverse expander 24 and glass boards 31, 32 and 33 are selectively inserted. Then, the energy intensity of the laser beam LB is adjusted. As a result, the laser operation device can be obtained to be utilized to radial keratotomy operation or reshaping operation with one device.



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